

RUDN University

Institute of Medicine

SUMMARY OF THE DISCIPLINE

Educational programme

06.06.01 «Biological Sciences»

Genetics: molecular basis of human hereditary diseases

Discipline	English
Number of Credits (hours)	4 credits (144 hours)
Content	
Blocks	Content of the Blocks
Block 1 Summaries. Reviews. Precis-writing	Primary and Secondary Texts. Basic and Secondary Information. Scientific Text Compression. Summaries. Reviews. Precis-writing.
Block 2 Presentation of Scientific Research	Types of Scientific Texts. Terminology and Main Characteristics of Scientific Style in Russian and Foreign Languages. Scientific Syntax. References. Citing. Scientific Article. Presentation of Scientific Article.

Director of the programme



M.M. Azova

*Federal state autonomous educational institution of higher education
Peoples' Friendship University of Russia
Faculty of Humanities and Social Sciences*

DISCIPLINE ANNOTATION

Education Programs in all fields of postgraduate study

Discipline	History and Philosophy of Science
Total	4 credits (144 hours)
Contents	
Units	Topics
The subject and basic concepts of modern philosophy of science	Philosophy of science as the study of general laws of scientific knowledge in its historical development and changing socio-cultural context. The evolution of approaches to the analysis of science. Logical and epistemological approach to the study of science. Positivist tradition in the philosophy of science. Expansion of the field of philosophical issues in the postpositivistic philosophy of science.
Science in the culture of modern civilization	Traditionalist and technogenic types of civilizational development and their basic values. The role of science in modern education and the formation of personality. Functions of science in society.
The genesis of science and the main stages of its historical evolution	The culture of the ancient polis and the formation of the first forms of theoretical science. Antique logic and mathematics. Western and Eastern medieval science. The formation of experimental science in the new European culture. Background of the experimental method and its connection with a mathematical description of nature. Formation of science as a professional activity. The genesis of disciplinary organized science. Formation of technical sciences. The formation of social and human sciences.
The structure of scientific knowledge	The variety of types of scientific knowledge. Empirical and theoretical levels, the criteria for their distinction. Features of the empirical and theoretical language of science. The structure of empirical knowledge. Experiment and observation. Empirical dependencies and empirical facts. The structure of theoretical knowledge. Primary theoretical models and laws. Developed theory. Theoretical models. Foundations of science. Ideals and norms of research. Scientific picture of the world. Philosophical foundations of science.
Dynamics of science	The interaction of the foundations of science and experience, the formation of a new discipline. Formation of primary theoretical models and laws. The role of analogies in the theoretical search. Procedures to substantiate theoretical knowledge. The relationship of the logic of discovery and logic of justification.. Formation of a developed scientific theory. Problem

	situations in science. The development of science under the influence of new theories.
Scientific traditions and scientific revolutions. Types of scientific rationality	The interaction of traditions and the emergence of new knowledge. Scientific revolution as the restructuring of the foundations of science. Problems of typology of scientific revolutions. Intra-disciplinary mechanisms of scientific revolutions. Global revolutions and types of scientific rationality. Historical change of types of scientific rationality: classical, non-classical, post-non-classical science.
Features of the modern stage of development of science. Prospects for scientific and technological progress	Modern processes of differentiation and integration of sciences. Global evolutionism as a synthesis of evolutionary and systemic approaches. New ethical problems of science at the end of XX century. The problem of humanitarian control in science and high technology. Environmental and socio-humanitarian expertise of scientific and technical projects. Scientism and anti-scientism. Science and parasience. The role of science in overcoming contemporary global crises.
Science as a social institution	Scientific communities and their historical types. Science schools. Scientific training. Historical development of the methods of transmitting scientific knowledge. Science and economics. Science and power. The problem of state regulation of science.
Modern philosophical problems of the branch of science	In the areas of training postgraduate students

Author:

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V.M. Naidysh



V.N. Belov



M.L. Ivleva

RUDN University

Institute of Medicine

SUMMARY OF THE DISCIPLINE

Educational programme

06.06.01 «Biological Sciences»

Genetics: molecular basis of human hereditary diseases

Discipline	Foreign Language
Number of Credits (hours)	5 credits (180 hours)
Content	
Blocks	Content of the Blocks
Block 1 Practical Course of English	Articles. Nouns. Adjectives. Numerals. Pronouns. Adverbs. Prepositions. Verbs: Regular and Irregular Verbs. Modal Verbs. Tenses: Present, Past, Future. Sequence of Tenses. Mood. Verbals: Infinitive, Gerund, Participle. Types of Sentences. Simple and Compound Sentences. Punctuation. Lexical Minimum: 5500 lexical units including 500 terminological units.
Block 2 Translation of Scientific Professional Literature	Scientific Style. Scientific Style in Natural Sciences. English for Academic Purposes. Translation Specificities of Terminology (Russian vs Foreign Languages). Adequacy and Equivalency in Translation of Scientific Articles. ICT in Translation.

Director of the programme



M.M. Azova

DISCIPLINE ANNOTATION


Education Programs in all fields of postgraduate study

Discipline	<i>Pedagogy of Higher Education</i>
Total	2 credits (72 hours)
Contents	
Units	Topics
Unit 1. Pedagogy of higher education as a field of study and academic subject area.	1. Pedagogy as a science, key concepts. Pedagogy of higher education in the system of pedagogical science. 2. Systems of higher education: comparative analyses. 3. Contemporary trends in higher education. Internationalization of higher education.
Unit 2. Didactics of higher education.	1. General aspects of didactic system. 2. Content of higher education (laws and regulations; main principles of selecting content). Curriculum and course syllabus. 3. Forms and methods of teaching. Lecture in modern higher education. Seminars, practical training, laboratory class. Project – working. 4. Students' individual work. 5. Interactive methods of teaching (discussions, case-study, training, professional simulation etc.). 6. ICT in modern higher education. 7. Monitoring and evaluation of academic performance. Point rating system.
Unit 3. Educational environment of modern university.	1. Faculty members' rights and responsibilities. Professional ethics. 2. Faculty interaction with students: case study. 3. Educational potential of extra-curricular activities.

Author:

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The Head of the

Psychology and Pedagogy Department  N.B. Karabushchenko

RUDN University

Institute of Medicine

SUMMARY OF THE DISCIPLINE

Educational programme

06.06.01 «Biological Sciences»

Genetics: molecular basis of human hereditary diseases

Discipline	Russian as a Foreign Language
General labour intensity	4 credits (144 hours)
Content of the discipline	
Modules	Content of the Modules
Module 1 Medical Russian: Practical Course	<p><i>Communicative Morphology</i>: meanings of cases in medical discourse, Russian verb and its categories, word-formation, participle and verbal adverb as specific categories of the scientific style, participial constructions in medical discourse.</p> <p><i>Communicative Syntax</i>: sentence models and their modifications, communicative organization of texts covering the following topic domains:</p> <ul style="list-style-type: none">• Biological object and its characteristics.• Processes in human organism.• Human hereditary diseases.• Medical treatment of human hereditary diseases. <p><i>Lexical Minimum</i>: 5500 lexical units including 500 terminological units.</p>
Module 2 Writing and Editing Dissertation	<p>Scientific Style. Russian for Academic Purposes. Reading and reviewing research literature. Preparation of a manuscript: structure of a dissertation, its main components. How to prepare for oral defense of a dissertation.</p>

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Federal State Autonomous Educational Institution of Higher Education
"Peoples' Friendship University of Russia"
Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

Basic professional educational program
higher education

Direction of training highly qualified personnel (postgraduate study):
31.06.01 Clinical medicine, 14.01.04 Internal disease: heart failure


Name of the discipline	Internal medicine
Scope of discipline	4 WE (144 hours)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
Respiratory diseases	<p>Pneumonia. Chronic obstructive pulmonary disease. Bronchial asthma. Asthmatic status. Urgent Care. Respiratory failure, acute and chronic, types, stages. Methods for studying the function of external respiration. Pulmonary heart. Pneumoconiosis (silicosis, silicatosis, beryllium, mixed). Lungs' cancer. Pleurisy is dry and exudative. Tumors of the pleura. Pneumothorax is spontaneous and traumatic. Pulmonary infarction. Pulmonary hemorrhage and hemoptysis. Urgent Care. Respiratory resuscitation methods. Diffuse lung diseases (sarcoidosis, alveolitis, eosinophilic pneumonia, Goodpasture syndrome).</p>
Diseases of the circulatory system	<p>Rheumatic heart disease. Acquired heart defects. Stenosis of the left atrioventricular foramen. Insufficiency of aortic valves. Aortic stenosis. Insufficiency of the valves of the pulmonary artery. Concomitant and combined defects. Features of hemodynamic disturbances in various heart defects. Infective endocarditis. Congenital heart defects. Atrial and ventricular septal defect. Non-clogging of the ductus arteriosus. Coarctation of the aorta. Fallot's triad and tetrad. Eisenmenger complex. Mitral valve prolapse syndrome. Diagnostic value of echo- and doppler echocardiographic, X-ray, electrocardiographic studies. Probing of the heart and large vessels, angiography. Cardiomyopathy. Myocarditis. Myocardial dystrophy. Aortic aneurysms. Acute pericarditis is dry and exudative. Chronic constrictive pericarditis Hypertonic disease. Hypertensive crises. Coronary artery disease. Risk factors. Methods for detecting atherosclerosis.</p>

	<p>Angina pectoris, definition, classification, clinical and electrocardiographic diagnostics, tests with dosed exercise, daily monitoring of ECG and blood pressure, coronary angiography, treatment.</p> <p>Acute coronary syndrome. Acute myocardial infarction, clinical variants, stages, classifications.</p> <p>Complications of myocardial infarction. Cardiogenic shock. Acute left ventricular failure: cardiac asthma and pulmonary edema. Acute heart rhythm and conduction disturbances. Acute and chronic heart aneurysm. Partial thromb-endoarthritis. Thromboembolism. Myocardial rupture. Ventricular fibrillation. Dressler's Syndrome. Recurrent and repeated myocardial infarction.</p> <p>Treatment of myocardial infarction. Medical rehabilitation.</p> <p>Acute heart failure. Classifications. Treatment methods</p> <p>Chronic heart failure. Classifications. Treatment</p> <p>Heart rhythm and conduction disorders. Treatment</p> <p>Atrial fibrillation. Classification. Treatment</p> <p>Ventricular fibrillation. Drug therapy. Electrical defibrillation. Artificial pacemakers of the heart.</p>
Diseases of the digestive system	<p>Congenital malformations of the esophagus. Functional diseases of the esophagus, etiology and pathogenesis.</p> <p>Gastroesophageal reflux disease.</p> <p>Malignant and benign tumors of the esophagus.</p> <p>Methods for the study of the function and diagnosis of diseases of the stomach and duodenum.</p> <p>Functional disorders of the motor and secretory function of the stomach.</p> <p>Acute gastritis. Chronic gastritis. Classification, etiology and pathogenesis, clinical picture, treatment. Clinical aspects of pyloric helicobacteriosis. The value of EGD and biopsy of the mucous membrane of the stomach and duodenum.</p> <p>Peptic ulcer and duodenal ulcer, epidemiology, etiology, pathogenesis, classification, complications. Methods for diagnosing Helicobacter pylori infection and the effectiveness of eradication therapy. Post-gastro-resection disorders. Symptomatic stomach and duodenal ulcers.</p> <p>Benign and malignant tumors of the stomach.</p> <p>Methods for diagnosing diseases of the liver and biliary tract</p> <p>Abnormalities of the gallbladder. Functional disorders of the biliary tract.</p> <p>Acute and chronic cholecystitis. Cholelithiasis. Postcholecystectomy syndrome.</p> <p>Tumors of the biliary system, benign and malignant.</p> <p>Tumors of the gallbladder and bile ducts, large duodenal papilla.</p> <p>Acute and chronic hepatitis, epidemiology, etiology, classification, treatment</p> <p>Liver cirrhosis, epidemiology, etiology, classification, morphological changes, diagnosis of various forms of liver cirrhosis, disease outcomes, complications of liver cirrhosis, fulminant liver failure, hepatic coma, latent hepatic encephalopathy, portal hypertension. Principles of liver cirrhosis treatment</p> <p>Pigmented hepatosis (Gilbert's syndrome, Crigler-Nayyard syndrome, Dabin-Johnson and Rotor syndrome), porphyrias, hepatolenticular degeneration, Wilson-Konovalov's disease. Accumulation diseases, fatty hepatosis, hemochromatosis, hepatocerebral dystrophy, liver amyloidosis.</p> <p>Primary sclerosing cholangitis.</p> <p>Benign and malignant liver tumors.</p>

	<p>Acute and chronic pancreatitis, classification, treatment. Benign and malignant tumors of the pancreas. Diseases of the small intestine. Malabsorption syndrome. Inflammatory diseases of the colon. Nonspecific ulcerative colitis. Crohn's disease.</p>
Kidney disease	<p>Methods for the differential diagnosis of kidney disease. Acute kidney injury. Acute kidney disease. Chronic kidney disease. Acute glomerulonephritis. Acute nephritic syndrome. Clinical and laboratory diagnostics. Chronic glomerulonephritis. Classifications. Amyloidosis of the kidneys. Nephrotic syndrome. Acute and chronic pyelonephritis. Urolithiasis disease. Diseases of the large vessels of the kidneys.</p>
Diseases of the hematopoietic organs	<p>Anemia. Classifications. B12 - (folic acid) - deficiency anemia. Addison-Birmer disease. Aplastic anemia. Toxic anemias, with radiation sickness and carcinomatosis. Agranulocytosis. Hemolytic anemias. Congenital erythrocytopathies. Hemoglobinopathy. Enzymatic hemolytic anemias. Hemoglobinuria, cold, march. Acquired autoimmune anemia. Hemolytic crises. Acute leukemia. Classifications. Chronic leukemia. Osteomyelosclerosis. Osteomyelofibrosis. Erythremia and erythrocytosis, primary and secondary. Multiple myeloma. Waldenstrom's macroglobulinemia. Lymphogranulomatosis. Lymphosarcoma. Sarcoidosis (Benier-Beck-Schaumann). Hemorrhagic diathesis. Coagulation - anticoagulant blood system. Laboratory and instrumental methods for the study of hemocoagulation. Thrombocytopenic purpura. Hemophilia. Symptomatic thrombocytopenia. Fibrinopenic and fibrinolytic bleeding. Hemorrhagic vasculitis. Disseminated intravascular coagulation syndrome</p>
Endocrine system diseases	<p>Diffuse toxic goiter. Methods for determining the function of the thyroid gland and the severity of thyrotoxicosis. Thyrotoxic heart. Thyrotoxic coma. Medication, radiation, surgical treatment. Treatment of complications. Nodular / multinodular goiter. Autoimmune thyroiditis. Hypothyroidism Hyperparathyroidism. Hypoparathyroidism. Diabetes. Classifications. Laboratory diagnostic methods. Features of diabetes mellitus in adolescence and old age, with obesity. Complications. Ketoacidotic, hyperosmolar, hypoglycemic coma. Macro- and microangiopathy. Principles of treatment of type I and II diabetes mellitus. Treatment of coma and complications. Acromegaly. Diabetes insipidus. Acute and chronic adrenal cortex insufficiency. Emergency therapy methods. Itsenko-Cushing's disease and syndrome. Laboratory and instrumental diagnostic methods. Hypothalamic syndrome. Connes syndrome. Primary and secondary hyperaldosteronism. Pheochromocytoma. Functional tests.</p>

Collagenoses, joint diseases	Systemic lupus erythematosus. Systemic scleroderma. Dermatomyositis. Periarteritis nodosa. Rheumatoid arthritis. Ankylosing spondylitis. Chronic deforming osteoarthritis. Methods for the treatment of collagen diseases and joint diseases.
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Program developers:

Head of Department	Internal diseases with the course of cardiology and functional diagnostics named after V.S. Moiseev	Kobalava Zh.D. 
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Federal State Autonomous Educational Institution of Higher Education
"Peoples' Friendship University of Russia"
Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

Basic professional educational program
higher education

Direction of training highly qualified personnel (postgraduate study):
31.06.01 Clinical medicine, 14.01.04 Internal disease: heart failure


Name of the discipline	Clinical pharmacology
Scope of discipline	4 WE (144 hours)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
General principles of clinical pharmacology.	<p>General questions of clinical pharmacology... The subject and objectives of clinical pharmacology, sections of clinical pharmacology. The concept of pharmacodynamics. The chemical nature of target molecules. Determination of pharmacokinetics. Bioavailability, protein binding, biotransformation in the liver, excretion of drugs. The concept of pharmacogenetics. Interaction of drugs. Side effects of drugs. By types of pharmacotherapy, nomenclature of drugs. Clinical trials of new drugs.</p>
Clinical and pharmacological approaches to the selection and use of drugs for diseases of internal organs and emergency conditions. Cardiology.	<p>Clinical pharmacology of drugs affecting vascular tone.Vasoconstrictors; peripheral vasodilators - with a predominant effect on arterioles, venules and mixed action; stimulants of central α-adrenergic receptors, selective agonists of imidazoline receptors; sympatholytics, ganglion blockers, converting enzyme inhibitors, angiotensin II receptor antagonists, blockers of "slow" calcium channels, dihydropyridines and nondihydropyridines, β-blockers: non-selective, selective. Indications for use. Principles of drug selection, determination of routes of administration, rational dosage regimen of the drug, taking into account the severity of the disease, the presence of concomitant diseases, the state of the excretion and metabolic organs, the effect of the drug on myocardial contractility, the state of peripheral vessels, drug interactions, the degree and type of gastric secretion disorders, the presence of intolerance, PK data, as well as factors that change the sensitivity to the drug. Diagnostics, correction and prevention of adverse reactions. Withdrawal syndrome. Possible interactions with their combined appointment and with drugs from other groups. Methods for assessing the effectiveness and safety.</p> <p>Clinical pharmacology of drugs affecting the basic functions of the myocardium. Drugs with an inotropic effect on the myocardium - cardiac glycosides. The dosage regimen of cardiac glycosides, depending on the state of the gastrointestinal tract, metabolic and excretion organs in the patient, the number and rhythm of heart contractions, the state of contractility and conductivity of the myocardium, the rate of development of the effect, drug interactions and factors contributing to a change in sensitivity to drugs. Diagnostics, correction and prevention of adverse reactions. Possible interactions with their combined appointment and with drugs from other groups. Antiarrhythmic drugs of the 1st, 2nd, 3rd, 4th classes. Antiarrhythmic drugs.</p>

	<p>The choice of an antiarrhythmic drug, its dosage regimen and route of administration, taking into account the PD and PK characteristics, the severity of the underlying and the presence of concomitant diseases, the state of the metabolic and excretion organs, the type of arrhythmias, the state of myocardial contractility and conductivity, the blood pressure level and taking into account drug interactions, as well as factors , contributing to a change in sensitivity to the drug. Methods for assessing the effectiveness and safety. Diagnostics, correction and prevention of adverse reactions.</p> <p>Clinical pharmacology of diuretics. Carbonic anhydrase inhibitors. Osmodiuretics. Loop diuretics. Diuretics acting on the cortical segment of Henle's loop. Potassium-sparing diuretics. The choice of diuretics, dosing regimen and route of administration depending on PK and PD, severity of the disease and urgency of the condition, the severity of the reported syndrome, electrolyte imbalance, acid base balance, blood pressure, the state of excretion and metabolism organs, drug interactions and factors that contribute to a change in sensitivity to the drug ... Methods for assessing the effectiveness and safety. Diagnostics, correction and prevention of adverse reactions. Possible interactions with their combined appointment and with drugs from other groups.</p>
<p>Clinical and pharmacological approaches to the selection and use of drugs for diseases of internal organs and emergency conditions. Hematology. Endocrinology.</p>	<p>Clinical and pharmacological approaches to the selection and use of drugs that affect hemostasis and hematopoiesis.Anticoagulants: direct, indirect. Fibrinolytic drugs that increase blood clotting. Fibrinolysis inhibitors. Drugs that reduce platelet aggregation. Means for stopping bleeding in patients with hemophilia (factor VIII cryoprecipitate, antihemophilic plasma). The principles of selection and determination of the dosage regimen depending on the state of the coagulating, anticoagulant, fibrinolytic systems of the patient, these PK and PD drugs and their characteristics in diseases of the liver, kidneys, gastrointestinal tract, hematopoietic organs, cardiovascular system, use at various stages of pregnancy, in lactating women and the elderly. Methods for assessing the effectiveness and safety. Diagnostics, correction and prevention of ADR. Possible interactions with their combined appointment and with drugs from other groups.</p> <p>Clinical pharmacology of drugs used in endocrinology. Clinical pharmacology of hypoglycemic drugs and drugs that affect the function of the thyroid gland. Clinical and pharmacological approaches to the selection of groups and specific drugs for the pharmacotherapy of diabetes mellitus, hypo- and hyperfunction of the thyroid gland. Oral hypoglycemic agents: 1) sulfonyl-urea derivative of I and II generation; 2) biguanides. Human insulins (ultrafast acting, short acting, neutral; medium duration; long acting). Insulins of animal origin. Thyroid hormone preparations. Emergency therapy in endocrinology. The choice, dosage regimen and route of administration, depending on PK and PD, the severity of the disease and the urgency of the state, the state of the organs of excretion and metabolism. Drug interactions. Methods for assessing the effectiveness and safety. Diagnostics, correction and prevention of adverse reactions. Possible interactions with their combined appointment and with drugs from other groups.</p>
<p>Clinical and pharmacological approaches to the selection and use of drugs for diseases of internal organs and emergency conditions. Pulmonology.</p>	<p>Clinical pharmacology of broncho-obstructive syndrome... Xanthine derivatives - simple, prolonged theophyllines. M-anticholinergics, adrenergic stimulants. B-stimulants, B2-stimulants - selective short and long acting. Expectorants of reflex action, resorptive action. Mucolytic agents. Mast cell membrane stabilizers. Leukotriene receptor inhibitors. Anti-histamines. Principles of drug selection, determination of routes of administration, methods of drug delivery into the respiratory tract (solutions through metered dose inhalers, nebulizers, use of spacers, dry powder using a spinhaler, dischaler, etc.) and a rational dosage regimen of drugs, taking into account the reversibility of airway obstruction, the severity of bronchial obstruction , quantity and quality</p>

	<p>of sputum, heart rate, blood pressure level, disturbances of excitability and conduction of the myocardium, FC data, as well as factors that change sensitivity to the drug. The concept of stepwise therapy for bronchial asthma and chronic obstructive pulmonary disease. Diagnostics, correction and prevention of adverse reactions. Receptor desensitization syndrome (tachyphylaxis, internalization and decreased regulation - the development of resistance to B-stimulants), ways of its correction and prevention. Methods for assessing the effectiveness and safety. Assessment of the quality of life. Compliance concept. Diagnostics, correction and prevention of adverse reactions. Possible interactions with their combined appointment and with drugs from other groups.</p>
<p>Clinical and pharmacological approaches to the selection and use of drugs for diseases of internal organs and emergency conditions. Gastroenterology.</p>	<p>Clinical and pharmacological approaches to the selection and use of drugs for diseases of the digestive system. Drugs that reduce digestive secretion: M-anticholinergics, H₂-histamine blockers, proton pump inhibitors (1st, 2nd generations). Antacids, gastro-cytoprotectors, drugs affecting gastrointestinal motility prokinetics. Antibacterial drugs. Enzymatic and antienzyme drugs, antidiarrheal drugs that reduce gastrointestinal motility, adsorbent and enveloping, restoring the balance of intestinal microflora, intestinal antiseptics, laxatives. Sorbents. Cholagogues and cholagogue-like drugs. Hepatoprotectors. Means that change the motility of the gastrointestinal tract: antispasmodics, laxatives. Indications for use. Principles of drug selection, determination of routes of administration, rational dosage regimen of the drug, taking into account the degree and type of gastric secretion disorders, gastrointestinal motility, changes in liver function, the presence of inflammatory changes in the bile ducts and in the liver, jaundice, the presence of intolerance, FC data, as well as factors that change the sensitivity to the drug. Diagnostics, correction and prevention of adverse reactions. Possible interactions with their combined appointment and with drugs from other groups. Methods for assessing the effectiveness and safety. Pharmacotherapy standards in gastroenterology.</p>
<p>Clinical and pharmacological approaches to the selection and use of drugs for diseases of internal organs and emergency conditions.</p>	<p>Clinical and pharmacological approaches to the selection and use of antimicrobial drugs. Classification of antibiotics. General features of antimicrobial drugs. Mechanism of action β-lactam antibiotics, their effects, undesirable side effects, interactions with other drugs. The mechanism of action of macrolides, fluoroquinolones, aminoglycosides, tetracyclines, glycopeptides, lincosamides, nitroimidazoles, their effects, undesirable side effects, interactions with other drugs. Antifungal drugs, antiviral drugs. Classification. Mechanism of action. Indications for their use. Diagnostics, correction and prevention of ADR. Possible interactions with their combined appointment and with drugs from other groups. Clinical pharmacology of steroid and non-steroidal anti-inflammatory drugs. Systemic and inhaled glucocorticosteroids. Non-steroidal anti-inflammatory drugs. Selective inhibitors of cyclooxygenase-2. Principles of selection and determination of routes of administration, dosing regimen of anti-inflammatory drugs, taking into account the peculiarities of PD, mechanism of action, chronopharmacology, PK - metabolism and excretion from the body, peculiarities of the inflammatory process: localization, intensity, state of the gastrointestinal tract, circulatory system, and other methods for assessing the effectiveness and safety ... Diagnostics, correction and prevention of adverse reactions. Possible interactions with their combined appointment and with drugs from other groups. Clinical pharmacology of psychotropic drugs. Psychostimulants. Antipsychotics. Tranquilizers. Antidepressants. Sleeping pills. Nootropics. Indications and principles of choice, determination of the dosage regimen for psychotropic drugs, depending on the mechanism of action, metabolism and excretion from the body, characteristics of mental status, age characteristics;</p>

	<p>interaction with other drugs. Methods for assessing the effectiveness and safety. Diagnostics, correction and prevention of ADR. Possible interactions with the combined administration of drugs and with drugs from other groups.</p> <p>Clinical pharmacology of cytostatics and immunosuppressants.</p> <p>Drug groups: alkylating, antimetabolites of folic acid, purine, pyrimidine. Various synthetic drugs. Herbal products. Principles of selection and determination of the dosage regimen of anticancer drugs (mechanism of action, metabolism and excretion from the body, type of tumor process, localization, malignancy and growth rate, generalization of the process, state of organs and systems), types of their combination. Methods for assessing the effectiveness and safety. Diagnostics, correction and prevention of adverse reactions.</p>
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Program developers:

<p>Head of Department</p>	<p>Internal diseases with the course of cardiology and functional diagnostics named after V.S. Moiseev</p>	<p>Kobalava Zh.D.</p> 
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Federal State Autonomous Educational Institution of Higher Education
"Peoples' Friendship University of Russia"
Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

Basic professional educational program
higher education

Direction of training highly qualified personnel (postgraduate study):
31.06.01 Clinical medicine, 14.01.04 Internal disease: heart failure

Name of the discipline	Lab and functional diagnostics
Scope of discipline	4 WE (144 hours)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
Stages of laboratory research	Pre-analytical stage of laboratory research, responsible parties. Rules for preparing a patient for various types of laboratory tests. Rules for collecting one-time and daily urine. Preparing the patient for blood tests. types of containers for collecting biomaterial. biomaterial labeling. Transportation and storage of biomaterial. Analytical stage of laboratory research. Post-analytical stage of laboratory research. The main sources of errors at the pre-analytical, analytical and post-analytical stages.
Laboratory research in cardiology	Laboratory tests for ischemic heart disease. Laboratory diagnostics of myocardial infarction. Troponins. Highly sensitive troponin measurement methods. Algorithms for evaluating research for troponins. Heart enzymes. Whey enzymes. Studies of the hemostatic system in coronary heart disease. Laboratory tests for peripheral arterial disease. Laboratory tests for rheumatic heart disease. Laboratory tests for deep vein thrombosis. Laboratory diagnostics of pulmonary embolism. The influence of drugs used in the treatment of diseases of the cardiovascular system on the results of laboratory parameters.
Non-invasive diagnostics of cardiovascular diseases	ECG, principles of performance, indications and contraindications, interpretation of results. Daily ECG monitoring, interpretation of results. 24-hour blood pressure monitoring. Stress tests for coronary insufficiency (bicycle ergometry, treadmill test, transesophageal pacing, stress echocardiography), principle of performance, indications and contraindications, interpretation of results. Complications during the performance of non-invasive diagnostic methods and methods of dealing with them.
Univariate echocardiography (M mode). Two-dimensional echocardiography (2D mode).	Principles of obtaining an image of the heart in M mode. Anatomical structures of the sagittal section of the heart. Understand the standard EchoCG positions of the M mode. Principles of obtaining an image of the heart in 2D mode. Standard 2D mode accesses. Doppler ultrasonography. Continuous wave (CW) and pulsed wave (PW) Doppler studies. Fourier transform. Color Doppler mapping.
3D mode. 4D mode. Tissue dopplerography. Transesophageal echocardiography. Contrast echocardiography.	Basic hemodynamic measurements. Left ventricular systolic and diastolic dysfunction. EchoCG diagnostics of acquired heart defects, protracted septic endocarditis, cardiomyopathies, heart tumors, pericarditis, congenital heart defects, diagnostics of coronary artery disease.

<p>Multispiral computed tomography in the diagnosis of cardiovascular diseases. Radionuclide diagnostics of cardiovascular diseases</p>	<p>Basic principles of the method. The principle of construction of the image. Interpretation of images. The principle of 3D reconstruction. Main indications and contraindications. Disadvantages of the method. Scintigraphy. Positron emission tomography. Single-photon emission tomography. The principle of implementation of the methods. Interpretation of images. Indications and contraindications. Complications when performing these methods and how to prevent them.</p>
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Program developers:

<p>Head of Department</p>	<p>Internal diseases with the course of cardiology and functional diagnostics named after V.S. Moiseev</p>	<p>Kobalava Zh.D. <i>Thras</i></p>
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Federal State Autonomous Educational Institution of Higher Education
"Peoples' Friendship University of Russia"
Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE


Basic professional educational program
higher education

Direction of training highly qualified personnel (postgraduate study):
31.06.01 Clinical medicine, 14.01.04 Internal disease: heart failure

Name of the discipline	Methodology of scientific research
Scope of discipline	3 EC (108 hours)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
Methodological foundations of scientific knowledge	Activity as a form of active attitude to the surrounding world. Science as a specific form of activity. Scientific knowledge concept. Cognition is the process of movement of human thought from ignorance to knowledge. Practice as a reflection of objective reality in the consciousness of a person in the process of his social, industrial and scientific activities. Dialectics of the cognition process. Absolute and relative knowledge. Levels, forms and methods of scientific knowledge. Interaction of theoretical, speculative and empirical levels of science development. The concept of the method and methodology of science. Methodology - teaching about the methods, principles and methods of scientific knowledge. General methodological principles of scientific research: the unity of theory and practice; principles of objectivity, comprehensiveness and complexity of research; systematic approach to research.
Methods of scientific knowledge	The method of scientific knowledge: essence, content, main characteristics. The main function of the method. Theory and method. Classification of methods of scientific knowledge: philosophical, general scientific approaches and methods, special scientific, disciplinary, interdisciplinary research. Three levels of general scientific research methods: methods of empirical research, methods of theoretical knowledge, general logical methods. Empirical research methods: observation, comparison, description, measurement, experiment. Methods of theoretical knowledge: formalization, axiomatic method, hypothetical - deductive method, ascent from the abstract to the concrete. General scientific logical methods and techniques of cognition: analysis, synthesis, abstraction, idealization, induction and deduction, analogy, modeling, systems approach, etc. Research methods for various cardiac diseases. Research capabilities of various methods.
Methodology of science as a social - technological process.	The concept of scientific research. Types of research. Classification of scientific research: according to the composition of the investigated properties of the research object, according to the place of their conduct, according to the stages of the research. Research program, general requirements, topic selection and problems. Stages of scientific research: preparatory, theoretical and empirical research, work on the manuscript and its design, implementation of the results of scientific research. Components of research readiness for research activities. Problematic situation. Algorithm for creating a problem situation. Scientific research. Plan - avenue. Levels and structure of scientific research methodology. The methodological concept of the research and its main stages. Characteristic features of the implementation of the research stages. The main components of the research methodology. Literary design of research materials. General scheme of scientific research. The main methods of finding information for research.

Methodology of dissertation research.	Methodological strategies for dissertation research. The structure and logic of scientific dissertation research. Research dissertation program. Selection of a topic, work plan, bibliographic search, selection of literature and factual material. Thesis architecture. Distribution and structure of the material. The problem of dissertation research. Disclosure of tasks, interpretation of data, synthesis of the main results. Rules and scientific ethics of citation. The practical significance of the dissertation and the relevance of its topic. Academic style and peculiarities of the dissertation language. Justification in the introduction of the choice of methodology is the methodological basis of the research program of the dissertation work. Development of the problematic field of the dissertation. Basic requirements for the content and design of the thesis. Methodology for working on a research manuscript, features of preparation and design. Registration of dissertation work, compliance with state standards. Submission for defense, public defense procedure. Requirements for the speech of applicants at the public defense of the dissertation.
Experiment.	Classification of experiments. Experiment plan. Types, methods and measurement errors. Measuring instruments: classification, main characteristics, verification. Carrying out an experiment.
Processing of experimental results	Fundamentals of the theory of random errors and mathematical statistics: the concept of a random variable, distribution function of random variables, probability density, a set of random variables, laws of distribution of random variables. Testing experiments for uniformity. Planning an experiment. Graphical representation of the results of the experiment. Empirical formulas
Registration of scientific research.	Scientific and technical report, publication, dissertation. GOST 7.32-2001. Bibliography design in accordance with GOST.

Program developers:

Head of Department	Internal diseases with the course of cardiology and functional diagnostics named after V.S. Moiseev	Kobalava Zh.D. 
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ANNOTATION OF THE EDUCATIONAL DISCIPLINE


Basic professional educational program
higher education

Direction of training highly qualified personnel (postgraduate study):
31.06.01 Clinical medicine, 14.01.04 Internal disease: heart failure

Name of the discipline	Heart failure
Scope of discipline	4 WE (144 hours)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
Arterial hypertension	Risk factors. Classification, clinical presentation, examination methods, drug and non-drug treatment. Surgical and interventional treatments, indications and contraindications.
Ischemic heart disease. Risk factors. Angina pectoris.	Ischemic heart disease. Risk factors. Exertional angina. Classification (functional classes of angina pectoris), clinical symptoms, drug and non-drug treatment. Surgical and interventional treatments, indications and contraindications. Prinzmetal's angina. The reasons. The clinical picture. Diagnostics, differential diagnostics, treatment tactics. Painless myocardial ischemia. Causes of occurrence, clinical picture, diagnosis and differential diagnosis, treatment. Syndrome - H. clinical picture, differential diagnosis, treatment features. Cardialgia: non-coronary heart disease, diseases of the musculoskeletal system, lungs and pleura, esophagus, stomach, duodenum, gallbladder, pancreas and other diseases with which it is necessary to carry out a differential diagnosis
ACS. Myocardial infarction	ACS, classification. Unstable angina: definition, pathogenesis, classification, diagnosis, differential diagnosis, drug treatment, surgical and interventional methods of treatment of unstable angina, indications and contraindications. Epidemiology of myocardial infarction. Risk factors. Pathogenesis. Classifications. Types of myocardial infarction. The clinical picture. Diagnostics and differential diagnosis of myocardial infarction. Instrumental methods: ECG changes, their staging; echocardiography. Laboratory diagnostics. The course and complications of myocardial infarction. Treatment.
Heart rhythm disturbances. Conduction disorders of the heart (blockade).	Etiology, pathogenesis, classification of cardiac arrhythmias. Ectopias, supraventricular and ventricular extrasystoles, paroxysmal tachycardia, flutter and atrial and ventricular fibrillation. Classification, clinical presentation, ECG diagnostics, treatment tactics. Fibrillation ventricles. Emergency therapy. Classification of cardiac conduction disorders. Sick sinus syndrome. Sinoatrial, atrioventricular and intraventricular blockade (blockade of the bundle branch, branches of the left leg) Causes of occurrence, clinical picture, ECG - diagnostics, treatment tactics. Complications of conduction disorders, clinical picture, diagnosis, differential diagnosis of complications. Treatment. Syndromes of premature excitation of the ventricles. Classification, diagnostics, differential diagnostics. Medication and non-medication treatment. Long QT syndrome. Causes, ECG diagnostics, clinical symptoms, treatment tactics. Transesophageal cardiac stimulation in the diagnosis and treatment of patients with cardiac arrhythmias and conduction disorders. Pacemakers. Classification. Indications and contraindications for temporary and permanent cardiac stimulation. Methods of implantation of pacemakers. ECG with pacing. Features of

	hemodynamics during cardiac stimulation. Pacemaker's syndrome, mechanism of occurrence and treatment.
Acquired heart defects. Pericarditis. Cardiomyopathy and myocarditis.	<p>Insufficiency of a two-piece valve. Stenosis of the left atrioventricular foramen. Insufficiency of the aortic valve. Narrowing of the aortic opening. Etiology, pathogenesis, clinical picture, diagnostic methods, differential diagnosis, treatment. Stenosis and tricuspid valve insufficiency. Combined heart defects. Etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment. Heart defects Surgical methods of treatment of valvular heart lesions. Indications and contraindications for surgical treatment.</p> <p>Pericarditis. Etiology, pathogenesis, classification, clinical picture, diagnosis, differential diagnosis, treatment. Indications for pericardial puncture, pericardial puncture technique. Pericardial biopsy. Features of the clinical manifestations of pericarditis in trauma, tuberculosis, neoplasms, systemic lupus erythematosus, myxedema, uremia, etc. Dry pericarditis. Clinical picture, diagnosis, differential diagnosis, ECG, EchoCG. Treatment. Acute effusion pericarditis. The clinical picture. Diagnosis. Differential diagnosis. The value of X-ray examination, echocardiography. Cardiac tamponade. Symptoms of compression of the heart. Treatment taking into account the etiological factor. Adhesive (constrictive) pericarditis. Etiology. The mechanism of development and features of circulatory disorders, "pseudocirrhosis" of the liver. Postoperative adhesive pericarditis. Diagnosis, treatment. Indications for puncture of the pericardium. Indications and surgical treatment and its types.</p> <p>Myocarditis. Classification. Etiology and pathogenesis. Clinical manifestations. Diagnostics and differential diagnostics. Treatment. Forecast. Prevention.</p> <p>Cardiomyopathy. Classification. Pathogenesis of intracardiac hemodynamic disorders in dilated, hypertrophic and restrictive cardiomyopathy. Clinical manifestations. Diagnostics and differential diagnostics. Course and complications. Forecast. Medication. Indications for surgical treatment.</p>
Acute and chronic heart failure.	Etiology, pathogenesis, clinic, diff. diagnostics of acute and chronic heart failure. Classification. Modern methods of examination and treatment Acute and chronic heart failure.

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